

# CURRICULUM VITAE OF HERMAN D. HUGHES

January 2005

## PERSONAL DATA AND COMMUNICATION ADDRESS

HUGHES, HERMAN D., born November 10, 1938  
U. S. Citizen, married with 3 children  
Computer Science and Engineering Department  
Michigan State University  
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## EDUCATION

PhD Computer Science University of Louisiana at Lafayette, 1973  
M.A. Chemistry Tuskegee University, 1963  
B.S. Mathematics Stillman College, 1959

## PROFESSIONAL EXPERIENCE

Jan 2005- ADJUNCT PROFESSOR,  
School of Electrical and Computer Engineering, Georgia Institute of Technology  
1993-2004 director,  
Wireless Communications & High-Speed Networks Research Lab., Michigan State University  
1984-2004 PROFESSOR, (PROFESSOR EMERITUS, Effective Jan 2005)  
Department of Computer Science, Michigan State University  
1986-1991 ASSISTANT DEAN,  
Graduate School, Michigan State University  
1979-1984 ASSOCIATE PROFESSOR,  
Department of Computer Science, Michigan State University  
1973-1978 ASSISTANT PROFESSOR,  
Department of Computer Science, Michigan State University  
1964-1973 ASSOCIATE PROFESSOR,  
Department of Mathematics, Grambling State University  
1969-1972 TEACHING ASSISTANT (TA),  
Department of Mathematics University of Louisiana at Lafayette  
1963-1964 INSTRUCTOR OF MATHEMATICS,  
Druid High School, Tuscaloosa, Alabama  
1962-1963 INSTRUCTOR of MATHEMATICS,  
Tuskegee University, Tuskegee, Alabama  
1959-1962 INSTRUCTOR of MATHEMATICS and SCIENCE,  
Eutaw High School, Eutaw, Alabama

1979, Summer	FACULTY ASSOCIATE, DOW Chemical, Midland, Michigan
1978, Summer	CONSULTANT for Graduate Program in Computer Science, Grambling State University
1977, Summer	FACULTY RESEARCH FELLOW, Wright Patterson Air Force Base, Dayton, OH
1976, Summer	FACULTY RESEARCH FELLOW, IBM (Watson Research Center), Yorktown, New York
1974, Summer	SENIOR ASSOCIATE ENGINEER, IBM, Federal Systems Division, Owego, New York
1973, Summer	SENIOR ASSOCIATE ENGINEER, IBM, Systems Product Division, Fishkill, New York
1971, Summer	FACULTY ASSOCIATE, American Oil Company, Chicago, Illinois
1968-1969 Summers	APPLICATIONS PROGRAMMER, IBM, Advanced Systems Development Division, Yorktown Heights, New York

## PROFESSIONAL SOCIETY AFFILIATIONS

- IEEE
- IEEE Computer Society
- Association for Computing Machinery
- The Society for Computer Simulation
- Pi Mu Epsilon (Mathematics Honorary Society)
- Upsilon Pi Epsilon (Computer Science Honorary Society)
- Sigma Xi (Scientific Research Honorary Society)
- Phi Kappa Phi Honor Society

## TECHNICAL PUBLICATIONS

### Refereed Journal Papers:

- Sun and Hughes, "Adaptive QoS Routing by Cross-layer Cooperation in Ad-hoc Networks", Jol. of Wireless Communications and Networking, Vol 2005, Issue 5, pp. 661-671.
- D. Perkins, J. Yang, H. Hughes, and C. Owen, "A QoS-aware Routing Framework for Mobile Ad Hoc Networks", The International Journal of Computer Systems, Science and Engineering, CRL Publishing, 19 (5) (2004) pp. 289-299
- Hui-Tang Lin and H.D. Hughes, "On Connection Handoff of Loss Sensitive Traffic in Wireless ATM Traffic", Journal of Computer Systems Science and Engineering, Vol. 17, No. 3, pp. 183-188, May 2002.
- Perkins, Dmitri D. and Hughes, Herman D., "Investigating the Performance of TCP in Mobile Ad Hoc Networks", International Journal of Computer Communications, 25 (11-12) (2002) pp. 1132-1139.

- Perkins, Dmitri D. and Hughes, Herman D., "A Survey on Quality of Service Support in Wireless Ad Hoc Network", *Journal of Wireless Communications and Mobile Computing (WCMC)*; Special Issue on Mobile Ad Hoc Networking, Trends and Applications, 2(5) (2002) pp. 503-513.
- L. Cheng and H. D. Hughes, "An ATM Traffic Model Based on Empirical Traffic Measurements", *Int. Jol. of Modeling & Simulation*, Vol. 20, No. 3, pp. 200-212, June 2000.
- L. Cheng and H. D. Hughes, "Providing Quality of Service Based on Call Admission and Cell Scheduling", *J. of Computer Systems and Engineering*, Vol. 13, No. 4, pp. 219-226, July 1998. .
- H. T. Lin and H. D. Hughes, "Performance Evaluation of an ATM Switch With Priority Output Buffers", *J. of Computer Systems and Engineering*, Vol. 12, No. 6, pp. 387-393, Nov., 1997.
- M. Krunz, H. D. Hughes, and R. Sass, "A Study of VBR MPEG-coded Video Traffic and Associated Multiplexing Performance", *J. of Computer Systems Science and Engineering*, Vol. 11, No. 3, pp. 135-144, May 1996.
- M. Krunz and H. D. Hughes, "Analysis of a Markov-Modulated Fluid Model for Multimedia Traffic with Loss Priorities", *J. of High-Speed Networks*, Vol. 3, 1994, pp. 309-329.
- J. Liu, H. D. Hughes, and C. M. Chiang, "Performance Analysis of Load-sharing for Hypercube Multiprocessor Systems," *Computer Systems Science and Engineering*, pp. 210-217, Vol. 7, No. 4, Oct. 1992.
- P. Yegani, H. D. Hughes, and J.-S. Yih, "A CSMA/CD Protocol with Message-Based Priority Function", *J. of Computer System and Engineering*, Vol. 3, Jan. 1988, pp. 13-20.
- H. Jiang, H. D. Hughes, and S. Smith, "Voice/Data Integrated Transmission on a Time-Division CSMA/CD Network," *J. of Computer Systems Science and Engineering*, Vol. 2, No. 3, 1987, pp. 125-130.
- H. D. Hughes, "A Give-Up Based Protocol for Token Passing," *J. of Computer Systems Science and Engineering*, Vol. 2, No. 2, 1987, pp. 85-91.
- H. D. Hughes, "A Programming Language Engineered for Beginners", *J. of Computer Languages*, Vol. 10, No. 1, 1985, pp. 23-36.
- H. D. Hughes, "Generating a Drive Workload from Clustered Data," *J. of Computer Performance*, Vol. 5, No 1, March 1984, pp. 31-37.
- H. D. Hughes, "Procedure for Reducing the Feature Set of Workload Data", *J. of Computer Performance*, Vol. 4, March 1983, pp. 6-12.
- H. D. Hughes, "A Capacity Planning Methodology for Large-Scale Computer Systems", with Liang Li, *Parallel and Large Scale Computers: Systems, Applications and Performance Evaluation*, Vol. 5, 1982.
- H. D. Hughes, "A Simulation of the ETHERNET", with Liang Li, *J. of Computer Performance*, Vol. 3, No. 3, September 1982, 210-217.
- H. D. Hughes, "Performance Analysis of a Shortest-Delay Protocol", with Liang Li and Lewis Greenberg, *J. of Computer Networks*, Vol. 6, No. 3, July 1982, pp. 189-200.

- H. D. Hughes, "A Highly Parameterized Tool for Performance Studies of Computer Systems", ACM Performance Evaluation Review, Vol. 10, No. 2, Summer 1981, pp. 48-64.
- H. D. Hughes, "A Tool Designed to Facilitate Structured Programming", ACM Bulletin of SIGCSE, Vol. 1, 1977.
- H. D. Hughes, "A Computer Program for the Solution of Multiple Sampling Plans", J. of Quality Technology, 5:1, pp. 39-42, January 1973.
- H. D. Hughes, "A Computer Program for the Solution of Double Sampling Plans", J. of Quality Technology, 4:4, pp. 205-209, October 1972.

**Books/Manuals:**

- F. Grodzinsky, H. D. Hughes, et al , Prentice-Hall, "Networking and Data Communications Laboratory Manual", ISBN 013-011702-1, 1999.
- H. D. Hughes, "ASPL Reference Manual. Introduction to ASPL", Technical Report, March 1978. ASPL Reference Manual, Technical Report, March 1978.

**Refereed Conference Papers:**

- D. Perkins, J. Yang, H. Hughes, and C. Owen, "Reducing the Impact of Mobility-Induced Route Failures on QoS in Mobile Ad Hoc Networks", to appear in the Proceedings of IEEE Globecom, November 2004
- Li-jun Chen, Herman D. Hughes, "Access Control Based on Fuzzy Probability for Guaranteeing QoS in Wireless Networks", in Proceedings of The International Conference on Wireless Networks, Las Vegas, 2004
- Li-jun Chen, Herman D. Hughes, "Bandwidth Allocation Strategies for Multimedia Services in Wireless Networks", in Proceedings of The International Conference on Wireless Networks, Las Vegas, 2004
- Hongxia, Sun and Hughes, Herman D., "A Framework of Local QoS Prediction in Mobile Ad Hoc Networks", Proceedings of IEEE Semiannual Vehicular Technology Conference (VTC), October 2003.
- Hongxia, Sun and Hughes, Herman D., "Adaptive Multi-path Routing Scheme for QoS support in MANETs", Proc. of Symposium on Performance and Telecommunication Systems (SPECTs), July 2003.
- Hongxia, Sun and Hughes, Herman D., "Adaptive Routing Scheme Based on Prediction of Local Performance in Ad Hoc Networks", Proceedings of IEEE Wireless Communications and Networking Conference (WCNC), March 2003.
- Perkins, Dmitri D. and Hughes, Herman D., " Factors Affecting the Performance of Ad Hoc Networks", Proceedings of IEEE International Conference on Communications (ICC 2002).
- Perkins, Dmitri D. and Hughes, Herman D., "The Interaction of MAC Layer Protocols and TCP in Mobile Ad Hoc Networks", Proc. of Symposium on Performance and Telecommunication Systems (SPECTS), July '2002.

- Perkins, Dmitri D. and Hughes, Herman D., "An Evaluation of TCP Over MAC Protocols in Mobile Ad Hoc Networks", Proc. of Int. Conf. Advances in Infra. for Electronic Bus., Sci., and Ed. on the Internet, August 2001, L'Aquila, Italy.
- Perkins, Dmitri D. and Hughes, Herman D., "TCP Performance in Mobile Ad HOC Networks", Proc. of SCS/IEEE Symposium on Performance and Telecommunication Systems, July 2001.
- Akhtar, Shakil and Hughes, Herman D., "An Authentication Mechanism for Digital Mobile Networks", Int. Conf. on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing, August 2001.
- Shugong Xu, Herman D. Hughes, Tarek Saadawi, "CAC Schemes Using Additional Information", Proc. of IEEE Globecom, November 2000.
- Enguang He, Herman D. Hughes, Fan Du, and Xiaojie Dong, " Modeling MPEG Traffic Over Wireless Networks", Proc. of IEEE ICC, June 2000.
- Dmitri Perkins and Herman D. Hughes, "A Performance Comparison of Routing Protocols for Mobile Ad-Hoc Networks", Proc. of SCS/IEEE Symposium on Performance and Telecommunication Systems, July 2000.
- Enguang He and H. D. Hughes, "Characterizing MPEG Traffic at Intermediate Nodes Over Wireless Networks", Proc. of Communications Networks and Distributed Systems Modeling and Simulation Conference, January 2000.
- Shugong Xu and H.D. Hughes, "A Parameterization Method for a Markov Model", Proc. of to IEEE GlobeCom '99, December 1999.
- H. D. Hughes, "Quality of Service in High-speed and Wireless Networks", Proc. of CACS2000 Workshop, University of Louisiana at Lafayette, November 1999.
- Shugong Xu and H. D. Hughes, "MPEG Video Modeling Based on GAR(1) Model", Proc. of SCS/IEEE Symposium on Performance and Telecommunication Systems, pp. 337-340, July 1999.
- Enguang He and H. D. Hughes, "Experimental Evaluation of TCP Performance Over Wireless Networks", Proc. of SCS/IEEE Symposium on Performance and Telecommunication Systems, pp. 192-196, July 1999.
- Fan Du, Xiaojie Dong, H. D. Hughes and L. Ni, "Resource Reservation in Wireless Networks", Proc. of SCS/IEEE Symposium on Performance and Telecommunication Systems, pp. 187-191, July 1999.
- P. Amancherla and H. D. Hughes,"Analysis and Modeling of MPEG-2 VBR Traffic", SCS/IEEE Symposium on Performance and Telecommunication Systems, July 1998.
- H. T. Lin and H. D. Hughes,"Preserving Cell Sequence of Handoff Connections in Wireless ATM Networks", Proc. of IEEE Conf. on Local Computer Networks, pp. 112-122, November 1997.
- H. T. Lin and H. D. Hughes, "Connection Handoff Emulation for Wireless ATM Networks", Proc. of Summer Simulation Conference, pp. 53-58, July 1997.
- H. T. Lin and H. D. Hughes, "A Hand-off Scheme for Wireless ATM Networks", Proc. of Eleventh Int. Conf. on Systems Engineering, July 1996.

- H. T. Lin and H. D. Hughes, "A Hierarchical Protocol Designed for Mobile Communication ATM Networks", Proc. of IEEE Int. Conf. on Universal Personal Communications, September 1996.
- M. Krunz and H. D. Hughes, "A Traffic Model for MPEG-coded VBR Streams", Proc. ACM SIGMETRICS and Performance, pp. 47-55, May, 1995
- M. Krunz and H. D. Hughes, "Statistical Characteristics and Multiplexing of MPEG Streams", Proc. of IEEE INFOCOM '95, Vol. 2, pp. 455-462.
- M. Krunz, H. D. Hughes, and Parviz Yegani, "A Performance Study of the NTCD Loss Priority Scheme Under VBR Compressed Traffic", Proc. of IEEE ICC, 1995.
- L. Cheng and H. D. Hughes, "A Connection Admission Control Algorithm Based on Measurements", Proc. of IEEE Int. Conf. on Communications (ICC), June 1995.
- L. Cheng and H. D. Hughes, "Studying Selected Network Applications in an ATM Testbed", Proc. of Conf. on Network(R) + INTEROP, March 1995.
- L. Cheng and H. D. Hughes, "Testing Bursty Traffic in an ATM Testbed", Proc. of the Seventh IEEE Workshop on Local and Metropolitan Area Networks, March 1995.
- L. Cheng and H. D. Hughes, "An ATM Traffic Model Based on Empirical Measurements", Proc. of IEEE GLOBECOM, November 1995.
- L. Cheng and H. D. Hughes, "On the Multiplexing Effect of ATM Traffic", Proc. of IEEE Symposium on Computers and Communications, pp. 84-90, 1995.
- L. Cheng and H. D. Hughes, "A Simulation Study for Investigating the Bursty Behavior of ATM Traffic", Proc. of the Summer Simulation Conf., July 1995.
- L. Cheng and H. D. Hughes, "Call Admission Control Issues in a Wireless ATM Network", Proc. of Third Int. Conf. on Computer Communications and Networking, September 1995.
- M. Krunz and H. D. Hughes, "A Source Model for MPEG Coded Video Movies", Proc. of IEEE ATM Workshop, October 1995.
- H. T. Lin and H. D. Hughes, "A Routing Algorithm for Metropolitan Networks", Proc. of Summer Simulation Conf., July 1995.
- A. Waheed, H. D. Hughes, and D. Rover, "A Resource Occupancy Model for Evaluating Instrumentation System Overheads", Proc. of Computer Meas. Group, December 1995.
- P. Yegani, H. D. Hughes, and M. Krunz, "Congestion Control Schemes in Prioritized ATM Networks", Proc. of IEEE Int. Conf. on Communications (ICC), May 1994.
- L. Cheng, H. D. Hughes, and Parviz Yegani, "Selective Discarding for Priority Cells in an ATM Network", Proc. of IEEE Computer Communications and Networks, September, 1994.
- H. T. Lin and H. D. Hughes, "Performance Evaluation of an ATM Switch with Priority Output Buffers", Proc. of IEEE Computer Communications and Networks, September, 1994.
- M. Krunz and H. D. Hughes, "Analysis of a Markov-Modulated Flow Model for Multimedia Traffic in ATM Networks", Proc. of IEEE GLOBECOM, November, 1994.

- L. Cheng and H. D. Hughes, "A Priority Schemes for Discarding Cells in ATM Networks", Proc. of Computer Simulation Conference, July 1994.
- M. Krunz, H. D. Hughes, and Parviz Yegani, "Traffic Control in ATM Switching Using Multiple Buffers and Nested Threshold Cell", Proc. of IEEE Second Int. Conference on Communications and Networks, June 1993.
- M. Libby and H. D. Hughes, "A Hybrid Model for Congestion Control in ATM Networks", Proc. of Summer Computer Simulation Conference, July 1993.
- M. Krunz and H. D. Hughes, "Congestion Control in ATM Networks Using Multiple Buffers and Priority Mechanism", Proc. of Summer Computer Summer Simulation Conference, pp. 566-571, July 1993.
- J. Liu and H. D. Hughes, "Dynamic Job Scheduling in Partitionable Mesh Connected Multiprocessor System", Proc. of Computer Simulation Conference, July 1992.
- L. Cheng and H. D. Hughes, "Performance of Congestion Control Algorithms for High Speed Networks", Proc. of Computer Simulation Conference, July 1992.
- J. Liu and H. D. Hughes, "An Experimental Study of Two-Dimensional Bin-Packing", Proc. of Computer Simulation Conference, July 1991.
- J. Liu and H. D. Hughes, "A Performance Study of Algorithms Involving Two Dimension Bin-Packing", Proc. of Simulation Technology Conference, October 1991.
- J. Liu and H. D. Hughes, "Performance Studies of Hypercube Multiprocessor System", Proceedings of Summer Simulation Conference, July 1990.
- H. D. Hughes and U-F. Io, "An Ethernet-like Protocol with Two Priority Levels", Proc. of Summer Computer Simulation Conf., July 1988.
- H. D. Hughes and K. R. Chaung, "A Variable Cycle Protocol for Token Passing", Proc. Hawaii Int. Conf. on Sys. Sci., Kona, Hawaii, January 1987.
- H. D. Hughes, "Cycle-Time Distributions in an Adaptive Token-Passing Bus Network", ACM Symposium on Communication Architecture and Protocols, Stowe, VT, August 1986.
- J. S. Yih and H. D. Hughes, "Modeling a Prioritized CSMA/CD Protocol", Proc. Summer Simulation Conference, Reno, Nevada, July 1986.
- J. S. Yih and H. D. Hughes, "Performance Evaluation of a Prioritized CSMA/CD Protocol", Proc. Hawaii Int. Conf. on Sys. Sci., Honolulu, HI, January 1986.
- V. Rego and H. D. Hughes, "Modeling an Adaptive Token-Passing Protocol", Proc. of IEEE Global Telecommunications Conference, New Orleans, LA, December 1985.
- L. Li and H. D. Hughes, "A Performance Study of ETHERNET", Proc. of CMG XIII Int. Conference on Computer Performance Evaluation, San Diego, California, December 1982.
- L. Li and H. D. Hughes, "Definition and Analysis of a New Protocol", Proc. 6th Conference on Local Computer Networks, Minneapolis, Minnesota, October 1981.

- H. D. Hughes, "What Programming Language, If Any, for Beginners?", Proc. of National Educational Computer Conference, Iowa City, Iowa, June 1979.
- H. D. Hughes, "Workload Characterization for Computer Systems," Proc. Comp. Meas. Grp. IV Int. Conference, San Francisco, California, December 1978.
- H. D. Hughes, "Decision Table Uses in Programming", ACM Computer Science Conference, Detroit, Michigan, abstracted in the Proceedings, 1978.
- H. D. Hughes, "Some Predicted Results for the APL System", ACM Computer Science Conference, Atlanta, Georgia, abstracted in the Proceedings, 1977.
- H. D. Hughes, "The Design and Implementation of an Algorithmic Language Processor", Proc. 4th Int. Conference on the Implementation and Design of Algorithmic Languages, Courant Institute of Mathematical Sciences, New York University, New York, June 1976.
- H. D. Hughes, "A Computer Model for Analyzing a Multichannel System", National Meeting of Society of Industrial and Applied Mathematics, Pasadena, California, abstracted in Proceedings, June 1974.
- H. D. Hughes, "Simulation of a Turing machine", National Meeting of Society of Industrial and Applied Mathematics, Hampton, Virginia, abstracted in Proceedings, June 1973.

#### **PhD Thesis Supervision**

- Dmitri D. Perkins, "Quality of Services Strategies for Mobile Ad Hoc Networks", May 2002.
- Hui-Tang Lin, "A Framework for Handling User Mobility in Wireless ATM Networks", May 1998.
- Lily Cheng, "A Framework for Call Admission Control in ATM Networks", May 1996.
- Marwan Krunz, "Design and Analysis of a Buffer Management Scheme for Multimedia Traffic in ATM Networks", August 1995.
- Chi-Ming Chaing, Co-Advisor Lionel Ni, "Multicasting in Multistage Interconnection Networks", August 1995.
- Jenshiuh Liu, Co-Advisor Wen-Jing Hsu, "Graph Embedding and Data Communication in a Large Family of Network Topologies", August 1992.
- Vernon Rego, Co-Advisor Lionel Ni, "Modeling and Analysis of Token-Passing Computer Networks", August 1985.
- Liang Li, Co-Advisor Lewis Greenberg, "The Analysis of Two Virtual-Token Protocols for Local Networks", June 1982.
- Chester Trahan, "A Model of Program Performance in Multiprogramming Systems", December 1978.

#### **Recent Researchers Supported:**

- Kanthakumar M. Pongaliur, Graduate Student.
- Dmitri D. Perkins, Ph.D.



- Jiajun Xiong, Postdoc, Research Associate.
- Mngyu Sun , Postdoc, Research Associate.
- Lejun Chen, Postdoc, Research Associate.

#### Technical Reports:

- H. Jiang and H. D. Hughes, "A Study of Voice Integrated with Data for a CSMA/CD Protocol", TR# 86-007.
- J. S. Yih and H. D. Hughes, "Analysis and Evaluation of a CSMA/CD Protocol with Priority Function, TR #85-025.
- V. Rego and H. D. Hughes, "Cycle-time Distributions in an Adaptive Token-Passing Bus Network", TR# 85-013.
- V. Rego and H. D. Hughes, "Performance of a Broadcast-Access Protocol with Node Priority, TR# 83-015.
- H. D. Hughes, Teachers' Guide for Tutorial Modules (Laboratory Oriented - Grade Level 6-9), Technical Report #82-017.
- H. D. Hughes, Teachers' Guide for Tutorial Modules (Computational Oriented - Grade Level 6-9), Technical Report #82-016.
- H. D. Hughes, Teachers' Guide for Tutorial (Math) Using Microcomputers, Technical Report, #82-01, February 1982.
- H. D. Hughes, Functional Manual for Tutorial Modules (Math), Technical Report, #81-01, April 1981.
- H. D. Hughes, "Problem-Solving in Mathematics for the 1980s", (invited paper), Proc. of NSF-NIE Regional Meeting, Chicago, Illinois, June 1981.
- H. D. Hughes, "GPSS Simulation Model of MVS", Interim Technical Report, DOW Chemicals, September 1979.
- H. D. Hughes "Workload Characterization for the DEC System-10", Interim Scientific Report for USAF-ASEE Summer Faculty Program, Wright Patterson Air Force Base, Ohio, 1977.
- H. D. Hughes, "Sampling Plan Generating System User's Guide", Information Report No. 26, University of Louisiana at Lafayette, March 1973.
- H. D. Hughes, "An On-Line Interactive System for Studying Sampling Plans", PhD Thesis, University of Louisiana at Lafayette, December 1972.

## INTERNATIONAL SCIENTIFIC COLLABORATION

- Coordinator (on the U.S. side) of the Group of Seven (G7) Nations trial of Global Interoperability of Broadband Networks (GIBN), demonstrated between the U.S and Japan, September 1996 through April 1997; applications demonstrated include: Video on Demand, Distant Learning, Real-Time Image Transfer, Video Conference, and Multimedia Image Database Retrieval; Sponsors were AT&T of the U.S. and The Japan Information Center of Science and Technology (JICST), and KDD of Japan.

## HONORS and AWARDS

- **Distinguished Faculty Award**, presented by Michigan State University, February 2000.
- Plaque and Certificate for successfully recruiting minority graduate students to “Big Ten” Universities, Presented by the **CIC** Organization, July 1999.
- Featured in an NSF Newsletter for successful workshops on computer networks, 1995.
- Recognized as a successful innovator in science, mathematics, and engineering education by the National Science Foundation, NSF Project Impact Conference, NSF95-69, May 1994.
- Service award in appreciation for contribution to under-represented groups in computer science, presented by ACM at the Annual Computer Science Conference, February 1993.
- Plaque and Certificate of Appreciation for successfully organizing a program for recruiting minority graduate students, presented by MSU Vice President of Research and Graduate Studies, February 1992.
- Plaque and Certificate for successfully conducting a National Science Foundation sponsored workshop on computer networks, presented by participating computer science faculty, August 1991.
- Selected by Albany State College as the **Distinguished Computer Science Lecturer** for 1991.
- Cited for excellence in research by the National Science Foundation, 1990.
- Certificate of Appreciation for Service to the Anti-Discrimination Judicial Board, Michigan State University, May 1987.
- **Distinguished Alumnus Award**, presented by Stillman College, Tuscaloosa, Alabama, April 1987.
- **Outstanding Alumnus Award**, presented by the Computer Science Department, University of Louisiana, Lafayette, LA, April 1986.
- **National ACM Lecturer** for 1983-1985.
- Plaque from IBM for outstanding contribution to an educational project, 1969.
- Invited participant for NSF-NIE Regional Meeting, Chicago, Illinois, June 1981.
- Invited guest at the Hughes-Fullerton Engineering Open House, Hughes Aircraft Company, Fullerton, California, May 1981.
- Certificates of Recognition Assistance and Encouragement in Support of the Organizational and Educational Objective of Minority Students in Engineering, 1978 and 1982.
- Certificate of Appreciation for Outstanding Service to Professionals in the Field of Computer Performance Evaluation, awarded by the Computer Measurement Group, 1978.
- USAF-ASEE Faculty Research Fellow, Wright Patterson Air-Force Base, Dayton, Ohio, 1977 Summer.

- Certificate of participation for Successful Association in the Summer Faculty Research Program held at Wright Patterson Air Force Base in collaboration with Ohio State University, 1977.
- NSF Faculty Research Fellow, IBM (Watson Research Center), Yorktown, New York, 1976 Summer.
- NSF Fellowship for Math/CPS Faculty, University of Louisiana, Lafayette, LA, 1963 & 1965 Summers.
- NSF Fellowship for Math/CPS Faculty, College of St. Thomas, St. Paul, Minn., 1964 Summer.
- NSF Fellowship for Math/CPS Faculty, University of Oklahoma, Norman, Oklahoma, 1963 Summer.
- NSF Fellowship for Math/Science Faculty, Tuskegee University, Tuskegee, Alabama, 1961-1962 Summers.

## INSTRUCTIONAL ACTIVITIES

- Presented lectures in NSF sponsored ubiquitous computing workshop, designed for computer science faculty, summer 2003.
- Presented lectures in NSF sponsored computer network workshops, designed for computer science faculty, summers 1991-92, 1994, 1996 & 1998..
- Taught: two courses ( Modeling & Discrete Simulation and FORTRAN) via TV; other courses taught: advanced, FORTRAN programming, Assembly Language and Computer Organization, Data Structures, System Programming, Discrete Mathematics, Information Theory, Pascal, PL/I programming, Computer Performance and Evaluation Techniques, Structured Programming Techniques, Computer Networks, Operating Systems.
- Developed very successful programs in Mathematics and Computer Science for high school ethnic minority students, during 1975-76, 1976-77, 1977-78, 1978-79, 1979-80 years.
- Developed new algorithmic programming language, as part of an Educational Program Development (EDP) project supported by MSU, used experimentally in an entry-level course at MSU, Spring Term, 1978.
- Developed two graduate level courses: Discrete Event Simulation and Computer Performance Evaluation, 1976 and 1985, respectively.

## GRANTS

### Research and Research Equipment Grants:

- ITR Supplement: Wireless Client Server Technologies for Ubiquitous Computing , NSF, \$28,000, September 2003 to August 2004, PI; Co-PIs (C. Owen and F. Biocca).
- ITR: Wireless Client-Server Technologies for Ubiquitous Multimedia Computing, NSF, September 2000 to August 2003, \$174,812, PI; Co-PIs (C. Owen and F. Biocca)

- ITR-REU Supplement: Wireless Client-Server Technologies for Ubiquitous Multimedia Computing, NSF, \$15,000, June 2001-August 2002.
- Multimedia Data Over Wireless Networks with Virtual Reality Applications, NSF, \$77,916, plus \$42,000 matching funds, March 2002 to February 2002, PI; (Co-PIs: C. Owen, F. Biocca, and S. Akhtar)
- Transport of MPEG-2 Video Traffic Over ATM Networks, NSF, August 1997 to August 2002, \$208,345, PI.
- Supplement: Transport of MPEG-2 Video Traffic Over ATM Networks, NSF, August 31, 1998 to , August 31, 2002, \$20,000, PI.
- REU: Transport of MPEG-2 Video Traffic Over ATM Networks, NSF, August 1, 1998 to August 31, 2002, \$5,000, PI.
- Experimental Research on Wireless ATM Networks, NSF, August 15, 1998 to July 31, 2002, \$66,000, plus \$22,000 MSU matching funds, PI.
- CISE Research Instrumentation for ATM Networking, NSF, \$169,068, plus \$94,000 MSU matching funds, February 1996-August 1997, PI; (Co-PIs: P. McKinley, and M. Mutka).
- Enhancements to the High-Speed Network and Performance Laboratory, AT&T, December 1994, \$50,000, plus \$20,000 MSU matching funds, PI; (Co-PIs: M. Mutka, P. McKinley, A. Esfahanian).
- Experimental Research on High-Speed Networks, REU, NSF, \$10,000, August 1994-December 1996, PI.
- Computer Performance and High-Speed Network Research Laboratory, AT&T, December 1993, \$25,000, plus \$10,000 MSU matching funds, PI; (Co-PIs: A. Esfahanain, P. McKinley, and M. Mutka).
- Experimental Research on High-Speed Network Problems, NSF \$60,000, September 1993-December 1996, PI.
- Congestion Control Schemes and Traffic Modeling in ATM Networks, \$10,000, Ameritech Foundation, May 1993-June 1994, PI.
- Equipment Proposal for High-Speed Local Area Networking, NSF, \$100,000, plus \$45,000 MSU matching funds, December 1992, PI; (Co-PIs: M. Mutka, P. McKinley, and A. Esfahanian).
- Computer Performance and Network Research Laboratory, AT&T, December 1992, \$25,000, plus \$10,000 MSU matching funds, PI; (Co-PIs: A. Esfahanain, P. McKinley, and M. Mutka).
- Computer Performance and Evaluation Research Laboratory, AT&T, October 1991, \$25,000, plus \$10,000 MSU matching funds, PI.
- Information System for Graduate Recruitment and Networking, NSF, September 1990-June 1994, \$297,374, PI.
- Development of Computer Performance Evaluation and Computer Network Laboratory, AT&T, September 1990, \$25,000, plus \$10,000 MSU matching funds, PI.

- Analysis of Priority Schemes for Local Networks, NSF, June 1984- May 1988, \$180,000, PI.
- A Protocol Investigation for Local Networks, NSF, September 1981- February 1984, \$66,654, PI.
- Impact of Microcomputers for Teaching Junior High School Students Math and Science, NSF, July 1981-August 1982, \$22,770, PI.
- Impact of Microcomputers for Teaching Junior High School Students Math and Science, NSF, September 1979-February 1981, \$104,600, PI.
- Capacity Planning for Large-Scale Computer Systems, Division of Engineering Research, Michigan State University, September 1980- June 1981, \$7,700, PI.
- Capacity Planning for Large-Scale Computer Systems, Division of Engineering Research, Michigan State University, September 1979- June 1980, \$7,715, PI.
- Workload Characterization and Computer Performance Studies, U.S. Air Force Office of Scientific Research, March 1978-June 1979, \$10,000 (plus \$8,321 MSU matching funds), PI.
- Development of A Decision Table Processor-Phase I, MSU Educational Development Program, December 1977, \$3,300, PI.
- Development of A Decision Table Processor-Phase II, MSU Educational Development Program, October 1976, \$1,500, PI.
- Contributed to the proposal entitled “Computer Science and Computer Engineering Research Equipment”, Harry G. Hedges, PI, NSF, 1984, \$137,830.
- Contributed to the proposal entitled “Equipment for Computer Science Research”, Harry G. Hedges, PI, NSF, 1977, \$55,000.
- Contributed to the proposal entitled “Computer Science and Computer Engineering Research Equipment”, Harry G. Hedges, PI, NSF, 1981, \$113,902.

#### **Training Grants and Educational Projects:**

- Undergraduate Faculty Workshop in Computer Networks, NSF, December 1997- July 2000, \$72,347, PI.
- Undergraduate Faculty Enhancement in Computer Networks, NSF, December 1995-August 1998, \$66,326, PI.
- Undergraduate Faculty Enrichment in computer Networks, NSF, January 1994-March 1996, \$70,000, PI.
- Undergraduate Faculty Enhancement in Computer Networks, NSF, June 1992- December 1993, \$30,000, PI.
- Undergraduate Faculty Enhancement in Computer Network, NSF, January 1991- January 1993, \$73,000, PI.

- Graduate Engineering Education at Michigan State University, NSF, September 1990-September 1995, \$1,080,000, Co-PI, Eric Grulke, PI.
- A Mathematics and Computer Science Development Project for High School Ethnic Minority Students, CIC+ Midwest Program for Minorities in Engineering, September 1980-August 1981, \$16,294 (plus \$8,292 MSU matching funds), PI.
- Mathematics and Computer Science Development Project for High School Minority Students, East Lansing School District, April 1980- December 1981, \$1,430 , PI.
- A Mathematics and Computer Science Development Project for High School Ethnic Minority Students, Lansing School District, March 1980-December 1981, \$4,300, PI.
- A Mathematics and Computer Science Development Project for High School Ethnic Minority Students, CIC+ Midwest Program for Minorities in Engineering, September 1979-August 1980, (\$16,294 MSU matching funds), PI.
- A Mathematics and Computer Science Development Project for High School Ethnic Minority Students, CIC+ Midwest Program for Minorities in Engineering, September 1978-June 1979, \$28,042 (plus \$13,945 MSU matching funds), PI.
- A Mathematics and Computer Science Development Project for High School Ethnic Minority Students, CIC+ Midwest Program for Minorities in Engineering, September 1977-June 1978, \$22,500 (plus \$12,000 MSU matching funds), PI.
- A Mathematics and Computer Science Development Project for High School Ethnic Minority Students, CIC+ Midwest Program for Minorities in Engineering, September 1976-June 1977, \$20,646 (plus \$1,532 MSU matching funds), PI.
- A Mathematics and Computer Science Development Project for High School Ethnic Minority Students, CIC+ Midwest Program for Minorities in Engineering (MPME), January-June 1976, \$9,670 (plus \$6,300 MSU matching funds), PI.

## **OTHER GRANTS**

- Annual Graduate and Professional Students Recruitment Conference (Enhance Your Future), Detroit Edison, 1988-1991, \$150,000, PI, Co-PI (Barbara O'Kelly).
- Annual Graduate and Professional Students Recruitment Conference (Enhance Your Future), Ford Motor Company, 1988-1990, \$30,000, PI, Co-PI (Barbara O'Kelly).

## **PROFESSIONAL ACTIVITIES**

### **Invited Article in Magazines**

- "Opportunities in Information Technology", The Black Collegian, February 2001.
- "The Millennium Meltdown: Myths and Realities", The Black Collegian, October 1999.
- "Career Opportunities in Computer Science for Afro-American College", The Black Collegian, October 1998.

### **Invited Lectures:**

- “Issues in Wireless Ad Hoc Networks: Future Directions”, NSF, June 2002.
- “A Framework for Quality of Service in Wireless Ad Hoc Networks”, Rochester Institute of Technology, April 2002.
- “An Evaluation of TCP Over Mac Protocols in Mobile Ad Hoc Networks”, with Dmitri D. Perkins, Int. Conf. on Advances in Infra. for Electronics Bus., Sci., and Ed. on the Internet, L’Aquila, Italy, August 2001.
- “Future Directions in Networking Research”, National Science Foundation, July 2000.
- “Quality of Service Issues in High-speed Heterogeneous Networks”, The University of Louisiana at Lafayette, November 1999.
- “A Collaborative Project with Japan to Demonstrate ATM Applications Over a Dedicated Fiber Link”, ATM ’97, June 1997.
- “Computer Networking in the University Environment”, NASA Goddard Space Flight Center, September 1991.
- “Computer Networking in Undergraduate Programs”, Luncheon speaker for Second Annual ADMI Conference, August 1991.
- “Strategies for Developing Successful Proposals”, Computer Science Conference, March 1991.
- “Historical Perspectives and Computer Performance Evaluation”, Albany State College, May 1991.
- “Impact of Modern Network Technology”, Albany State College, May 1991.
- “Evolution of High-Speed Networking”, Albany State College, May 1991.
- “Voice/Data Integrated Transmission on a Time Division CSMA/CD Network”, Carnegie Mellon University, June 1989.
- “Priority Scheme for Token-Passing on Local Networks”, University of Tennessee, February 1989.
- “Developing Research Proposals”, Conference sponsored by NSF, November 1988.
- “Token-Passing Protocol for Local Area Networks”, Wayne State University, Detroit, Michigan, February 1987.
- “Modeling Techniques Applied to Token-Passing”, Eastern Michigan University, Ypsilanti, Michigan, March 1986
- “Performance Evaluation of Prioritized Protocols”, Eastern Michigan University, Ypsilanti, MI, May 1985
- “Computer Networks”, Morgan State University, Baltimore MD, December 1984.
- “Computer Networks”, American University, Washington, D.C., December 1984.
- “Computer Networks”, Queens College, Flushing, NY, December 1984.

- “Computer Networks Applications in Educational Environments”, Central State University, Wilberforce, Ohio, May 1984.
- “Computer Networks”, Central Michigan University, Mt. Pleasant, MI, April 1984.
- “Computer Networks”, University of Louisiana., Lafayette, LA, April 1984.
- “Computer Networks”, Southern University, Baton Rouge, LA, April 1984.
- “Computer Networks”, Louisiana Tech. University, Ruston, LA, April 1984.
- “Computer Networks”, Grambling State University, Grambling, LA, April 1984.
- “Software Design Methodology”, Depauw University, Greencastle, IN, March 1984.
- “Computer Networks”, Indiana State University, Terre Haute, IN, March 1984.
- “Computer Networks”, Ohio Northern University, Ada, Ohio, March 1984.
- “Computer Networks”, Kansas State University, Manhattan, KS, February 1984.
- “Computer Networks”, University of Kansas ACM Chapter, Lawrence, Kansas, February 1984.
- “Computer Networks”, Kansas City ACM Chapter, Kansas City, Kansas, Feb. 1984.
- “Computer Networks”, Chicago ACM Chapter, Chicago, Illinois, December 1983.
- “A Programming Language for Beginners”, National Computer Conference, July 1982.
- “Tutorial Modules for Microcomputers”, NSF Project Directors Meeting Washington, D.C., February 1981.
- “A Simulation Model for Computer Performance Evaluation”, Jackson State University, Jackson, Mississippi, April 1980.
- “Reducing the Feature Set on Workload Data”, Bell Labs, Holmdel, New Jersey, April 1980.
- “Microcomputer Use for Teaching Junior High School Mathematics”, National Education Computer Conference, Norfolk, VA, June 1980.
- “Computers, What Are They? What Makes Them Tick?”, Summer Conference for Michigan Nurserymen, Lansing, Michigan, July 1980.
- “Technique For Selecting Features Used in Modeling a Computer Workload”, Wright Patterson Air Force Base, Ohio, May 1979.
- “Structured Design and Principles of Structured Programming”, DOW Chemical, Midland, Michigan, August 1979.
- “Engineering Careers for Minorities at Everett, Sexton, and Hill High Schools”, Lansing, Michigan, 1975-1979.
- “Status of CIC+ MPME Project at MSU”, Conference for CIC+ MPME Project Directors, Chicago, Illinois - 1976, 1977, 1978, 1979, 1980, 1981, and 1982.



- “Pattern Recognition Techniques Applied to Computer Performance Evaluation”, Air Force Institute of Technology, Wright Patterson Air Force Base, 1977.
- “An Algorithm for the Solution of Multiple Sampling Plans”, Louisiana Academy of Science, Monroe, Louisiana, April 1973.

## **PUBLIC SERVICE: PROPOSALS, PAPERS, PROGRAMS and BOOKS REVIEWED**

- Selected as a panelist to evaluate applicants for ASEE sponsored graduate fellowships, February 2005.
- Served on NSF panel for a reverse-site visit involving LAMPS, July 2005.
- Selected by NSF to serve on a panel for the “Small Business Innovation Research” Program, August and October 2003.
- Served as a chair of a session on Wireless Ad-Hoc Networks for SPECTS 2003 , July 2003.
- Served as a panelist for the 2002 NSF Graduate Research Fellowship Program, February 2002 and 2003.
- Selected by NSF to serve on the “LAMPS” panel, April 2003.
- Served as a panelist for the National Defense Science and Engineering Graduate Fellowship Program, February 2002.
- Served on the “LAMP” panel for NSF, March 2002.
- Selected by NSF to serve on the “MII” panel, March 2002.
- Selected as a Session Chair for Wireless Ad Hoc Networks, ICC 2002, May 2002.
- Selected as a Session Chair for Performance Issues in Wireless Networks, SPECTS ‘2002, July 2002.
- Reviewed several technical papers for SPECTS, GlobeCom, ‘2002.
- Reviewed several technical papers for SPECTS, 2001.
- Selected by NSF to serve on an NSF-COV panel in the Postdoctoral and Infrastructure programs, May 2001.
- Served as an External Reviewer for the Computer Science Program at the University of the District of Columbia, May 2001.
- Selected by the State University System of Florida to review the Florida A &M University’s proposed Ph.D Program in computer science, October 2000.
- Served as Chair of an ATM Session, 2000 Symposium on Performance Evaluation of Computer & Telecommunication Sys., July 2000.
- Served as Chair of Session on Video Traffic Modeling over Wireless Networks, Int’l Conf. on Communications, June 2000.

- Selected to serve on an NSF-COV Panel in the architecture area, July 2000.
- Selected by NSF to do a site visit at North Carolina A&T University, May 2000.
- Selected by ASEE as a panelist for awarding graduate fellowships in computer science, February 2000.
- Reviewed several technical papers for SPECTS, Jol. of Parallel and Distributed Systems Networks, '2000.
- Served as a Track Chair of the "High-speed Networking" session, SPECTS'99.
- Reviewed several technical papers for Sigmetrics '99.
- Reviewed several technical papers for GlobeCom, SPECTS, '99.
- Selected by NSF to serve on a panel entitled "LSAMP", December 1999.
- Selected by NSF to serve on a panel entitled "Course, Curriculum and Laboratory Improvement Program", July 1999.
- Selected by NSF to serve on a panel entitled "HBCUs", June 1999.
- Reviewed a book entitled "Telecommunications and Local Area Networks: Performance Analysis", by W. C. Chan, published by McGraw Hill, 1998.
- Selected by NSF to serve on a panel entitled "LSAMP", December, 1998.
- Selected by NSF to serve on a panel entitled "CCR/ANIR, October 1998.
- Chaired a review panel for NSF entitled "Centers for Research Excellence in Science and Technology", February 1998.
- Chaired a Subpanel for NSF entitled "Presidential Award for Excellence in Science and Engineering Mentoring", June 1998.
- Selected by NSF to do a site visit at Florida International and Florida Memorial College, April 1998.
- Selected by NSF as a panelist to review proposals on Promoting Research and Education in Science and Engineering, June 1998.
- Selected by NSF as a panelist to review proposals on Instrumentation and Laboratory Improvement (ILI), January 1998.
- Selected as a Chair of a technical session, "ATM Traffic Modeling", IEEE Symposium on Computer Performance and Telecommunication, July 1998.
- Reviewed the book entitled "Communications Networks", by J. Walrand, published by McGraw Hill, September 1997.
- Served as Chair of a technical session, "High-speed Networking", Summer Computer Simulation Conference, July 1997.

- Reviewed the book entitled “ATM, the Broadband Telecommunications Solutions”, by Cuthbert and Sapanel, published by The Institute of Electrical Engineers, London, United Kingdom, January 1996.
- Reviewed notes for the book entitled “Computer Networks”, by Andrew S. Tanenbaum, published by Prentice Hall, New Jersey, 1996.
- Selected by NSF as a panelist to review proposals solicited for the Undergraduate Faculty Enhancement Program, July 1996.
- Selected by NSF as a panelist to review proposals associated with the Academic Research Infrastructure Program, May 1996.
- Selected by NSF as a panelist for the Committee of Visitors (COV), to review Networking and Communications Research and Infrastructure Division, March 1996.
- Chosen to Participate in the NSF sponsored Workshop, focused on Information Technology in Undergraduate Education, April 1996.
- Selected by NSF as a panelist to review proposals on Networks and Communications, June 1995.
- Selected by NASA to chair a panel for reviewing proposals on Minority Universities Information for Research and Education, May 25-26, 1995.
- Selected by NSF as a panelist to review proposals for the CISE Educational Infrastructure Awards, May 1995.
- Selected by NSF as a panelist to review proposals for Instrumentation and Laboratory Improvement (ILI), 1994.
- Reviewed several proposals for NSF via mail, 1975-present.
- Selected by NSF as a panelist to review proposals for the RIMI Program, April and June 1989.
- Selected by NSF as a panelist to review proposals for the CISE Program, 1988 and 1990.
- Selected by ONR as a panelist to review Computer Science applications for the 1986 Graduate Fellowship Program, Washington, D.C., March 1986-present.
- Reviewed a book entitled “Introduction to Computer System Performance”, McGraw Hill, 1990. 1987 Graduate Fellowship Program, Bloomington, Indiana, March
- Reviewed a book entitled “Intro. to ATM” for Addison Wesley, April 1995.
- Selected as a panelist by CIC to review science applications for the 1987 Graduate Fellowship Program, March 1987.
- Reviewer for IEEE Transactions on Communications, 1985-1991.
- Reviewer for SIGCOM, 1985-1991.
- Reviewed a book entitled Microcomputers in the Background, West Publishing Co., 1985.

- Reviewer for IEEE Software Magazine, IEEE Computer Society, 1983- 1992.
- Reviewed a book entitled Software Development Tools, McGraw Hill, 1984.
- Reviewed a book entitled “Problem–Solving and Algorithms”, Reston Publishing Co., 1982.
- Selected by NSF as a panelist to participate in review of proposals submitted under the program solicitation, “Materials Development/Honors workshops for Pre-College Teachers of Science and Mathematics”, Washington, D.C., 1983.
- Selected by NSF as a panelist to participate in review of proposals submitted under the program solicitation, “DISE”, Washington, D.C., July 1982.
- Selected by NSF as a panelist to participate in the review of proposals submitted under the program solicitation, “CAUSE”, Washington, D.C., January 1981.
- Reviewed text material for proposed book entitled: “Computer Performance Measurement and Evaluation”, published by Prentice Hall, Inc., October 1979.
- Selected by NSF as a panelist to participate in the review of proposals submitted under the program solicitation, A Proof-Of- Concept Demonstration of an Intelligent Videodisc System for Science Education, Washington, D.C., December 1978.

## SHORT COURSES OFFERED

- Presented an NSF sponsored workshop (part of an ITR grant) to visiting CSE faculty on research in ubiquitous computing, June 2003.
- A two-week workshop for 15 visiting computer science faculty, sponsored by NSF, July 27, 1998-August 7, 1998.
- A one-week workshop for 20 visiting computer science faculty, sponsored by NSF, August 5-9, 1996.
- A two-week workshop for 20 visiting computer science faculty, sponsored by NSF, July 25-August 5, 1994.
- A three-week workshop for 16 visiting computer science faculty sponsored by NSF, July 15 to August 2, 1991.
- A three-day training session on computer network software packages for 16 computer science faculty; sponsored by NSF, August 6-8, 1992.
- A one-week Advanced Placement (AP) Computer Science Course: (18 paid participants per session), June 1983 and June 1984.
- A three-credit course on structured programming methodology for employees at the Federal Center (20 paid participants), Battle Creek, Michigan, Spring 1984.
- A two-day workshop on “Structured Programming and Design”, with John Forsyth: (20 paid participants per session), March 1979, March 1980, and March 1981.
- Initiated a master’s degree program offered by Michigan State University to faculty in the Mathematics Department at Grambling State University, Summer 1978.

## COMMITTEE ACTIVITIES

### National and International Levels:

- Member, Technical Program Committee, IEEE INFOCOM, 2003-present.
- Member, Technical Program Committee, IEEE International Computer and Communications (ICC), 2001-present.
- Member, Technical Program Committee, International Computer Performance and Telecommunication. Symposium of SCS, 1997-present.
- Member, Technical Program Committee, ACM Sigmetrics/Performance, 1998-1999.
- Associate Editor, Journal of Parallel and Distributed Systems and Networks, 1998-2000.
- Member, Technical Program Committee, IEEE Workshop of Local and Metropolitan Area Networks, 1997-1998.
- Member, Student Travel Grant Committee of SIGCOM, 1995-1997.
- Member, Steering Committee for the Association of Computer Machinery (ACM) for the Computer Science Conference, March 1991-1996.
- Program Evaluator, Computer Science Accreditation Board (CSAB), 1990- 1996.
- National Organizer, special panels and workshops associated with the Annual ACM Computer Science Conference, especially designed for minority computer science professionals, 1988-1996.
- Chairperson, technical sessions of several professional meetings.

### University/Department Level:

- Member, Awards Committee, Computer Science and Engineering Department, 2002-present.
- Chairperson, Awards Committee, Computer Science and Engineering Department, 2001-2002.
- Chairperson, Promotion and Tenure Committee, Computer Science Department, 1997-2000.
- Chairperson, Graduate Studies and Research Committee, Computer Science Department, 1997-1999.
- Member, Engineering Research Council, 1997-1999.
- Member, Diversity Initiatives Advisory Committee, 1997-present.
- Member, Ameritech Information Technology Award Committee, 1995-2000.
- Member, Search and Selection Committee, 1994-95.
- Chairperson, Tenure and Promotion Committee, 1991-1993.
- Member, Alliance for Success, 1990-1992.
- Member, Student Information System Policy Committee, 1987-1991.
- Member, Curriculum Review of Undergraduate Education (CRUE), 1987- 1988

- Chairperson, Graduate Studies and Research Committee, Computer Science Department, 1983-1986.
- Member, Provost Search and Selection Committee, 1986.
- Member, Anti-Discrimination Judicial Board, 1985-86.
- Member, Search and Selection Committee for the Chairman of the Computer Science Department, 1983-1985.
- Chairperson, Evaluation Committee for Selecting Academic Computing Director, April 1982.
- Member, Search and Selection Committee for Director of Minority Program in Engineering, 1982-1983.
- Member, Search and Selection Committee for Assistant Director of User Services, 1981-1982.
- Member, Search and Selection Committee for Associate Dean of Engineering, 1979-1980.
- Member, Affirmative Action Graduate Assistantship Committee, 1979- 1991.
- Member, Engineering College Computer Advisory Committee, 1978-1986.
- Member, Graduate Studies Committee, Department of Computer Science, 1976-1981.
- Member, Advisory Committee, Department of Computer Science, 1976- 1981.
- Member, Engineering College Equal Opportunity Committee, 1974- 1985.
- Member, Curriculum Committee, Department of Computer Science, 1974, 1975.
- Member, Network Communications Committee, 1985-2000.
- Member, International Studies Committee, 1986-1991.
- Member, Affirmative Action Graduate Financial Assistant Program, 1986- 1991.
- Member, Committee Institutional Cooperation Minority Access Panel, 1986-1991.
- Member, Enrollment Projection Committee, 1986-1991.
- Member, Graduate Council, 1986-1991.
- Member, Graduate Associate/Assistant Deans Group, 1986-1991.
- Member, Student Information Systems Group, 1987-1991.
- Member, Search and Selection Committee for Associate Director of the Computer Laboratory, 1987-1988.
- Coordinator, Martin Luther King-Rosa Parks Fellowship Program, Michigan State University, 1986-1991.
- Co-Director of the Summer Research Opportunity Program, Michigan State University, 1986-1991.

## **OUTSIDE CONSULTING**

- University of the District of Columbia, 2001-present.
- State University System of Florida, 2000-present.
- National Science Foundation, 1980-present.
- The Black Collegian, 1998-present.
- Lansing State Journal, 1995-present.
- Governors State University, 1994-1996.
- Office of Naval Research, 1986-1995.
- University of Maryland-Eastern Shores, 1990-1992.
- Central State University, 1981-1989.
- University of Tennessee, 1989-1991.
- Norfolk State University, 1993-1995.

## **ADMINISTRATIVE EXPERIENCE**

### **Computer Science Related:**

- Director of the Wireless Communications and High-speed Networking Research Laboratory. Two other faculty members and several graduate students are associated with this lab.
- PI for several research grants and projects, totaling more than 3 million dollars over 28 years.
- Managed projects which involved postdocs, graduate research assistants, undergraduate research assistants, secondary and middle-school teachers.
- Supervised several graduate and undergraduate teaching assistants for large undergraduate courses.

### **Graduate School Related:**

- Assistant Dean of the Graduate School:  
Supervised one secretary, one graduate assistant and one professional staff person.
- Managed the MSU component of the CIC Fellowship Program.
- Coordinated SROP, jointly administered with Dr. Hamilton (\$50k/yr).
- Initiated the following programs:
  1. King-Chevez-Parks Fellowship Program (\$100k/yr).
  2. GE Teaching Incentive Program (\$50k/yr).
  3. Research Internship Program (DREAMS)(\$70k/yr).
  4. Annual Graduate Recruitment Conference (Enhance Your Future) (\$50k/yr).
  5. Cost-sharing Program for traveling expenses associated with the recruitment of graduate students (\$25/yr).
  6. Infrastructure system for enabling minority graduate students (\$20k/yr).

7. 800-phone system to facilitate recruiting graduate students. (\$10k/yr).
8. Electronic mail capability for minority graduate students (\$3k/yr).
9. Linkages to institutions with large minority Hispanic, Black, and Native American enrollments.

**RESEARCH INTERESTS:**

**Multimedia Traffic Modeling and Management in ATM and Wireless Networks, including QoS issues in Wireless AD Hoc Networks.**

**REFERENCES: Available upon request.**